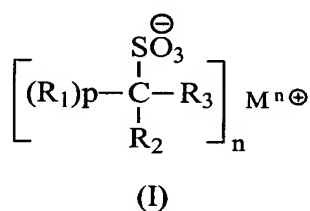


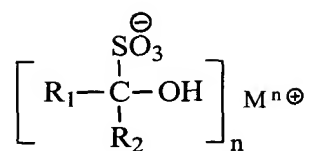
**We claim:**

1. A heat-sensitive composition comprising:
  - a) a thermally sensitive compound comprising a heat-activatable bisulfite adduct, and
  - b) a photothermal conversion material.
2. The heat-sensitive composition of claim 1 wherein said thermally sensitive compound is represented by the following Structure I:

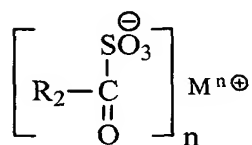


wherein  $\text{R}_1$  and  $\text{R}_2$  are independently aliphatic, aromatic, or polymeric groups, or  $\text{R}_1$  and  $\text{R}_2$  together comprise the atoms sufficient to provide a 3- to 7-membered carbocyclic or heterocyclic ring, M is a hydrogen or a cation of valency n, n is 1, 2, 3 or 4, p is 0 or 1, provided that when p is 0,  $\text{R}_3$  is oxo or thioxo and when p is 1,  $\text{R}_3$  is hydroxy or thio.

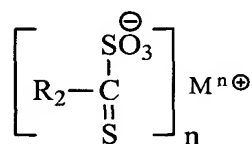
2. The composition of claim 1 wherein p is 0,  $\text{R}_2$  is  $-\text{NHR}_4$ ,  $\text{R}_3$  is oxo, and  $\text{R}_4$  is an aliphatic, aromatic, or polymeric group.
3. The composition of claim 1 wherein p is 1.
4. The composition of claim 1 wherein  $\text{R}_1$  is a polymeric backbone.
5. The composition of claim 2 comprising one or more of the following compounds as thermally sensitive compounds:



Ia

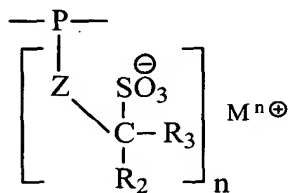


Ib



Ic

6. The composition of claim 2 wherein said thermally sensitive compound is a thermally sensitive polymeric material represented by the following Structure II:

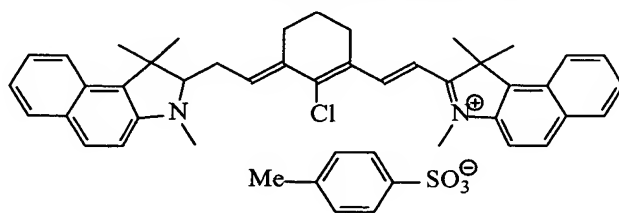


(II).

7. The composition of claim 6 wherein P is a vinyl polymer backbone.

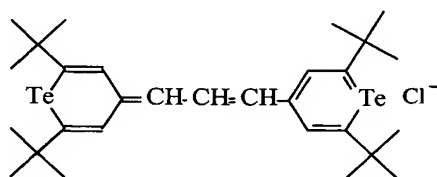
8. The composition of claim 1 wherein said photothermal conversion material is a carbon black or an IR dye that is bis(dichlorobenzene-1,2-

thiol)nickel(2:1)tetrabutyl ammonium chloride, tetrachlorophthalocyanine aluminum chloride, or one of the following compounds:

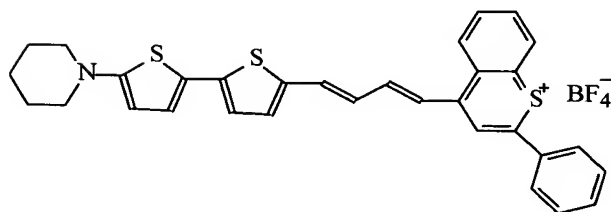


IR Dye 1

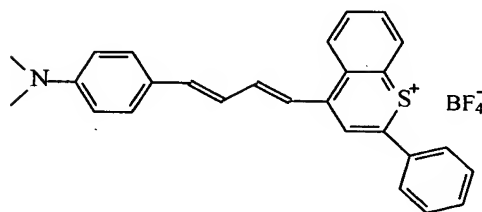
IR Dye 2 is the same as IR Dye 1 but with  $\text{C}_3\text{F}_7\text{CO}_2^-$  as the anion.



IR Dye 3

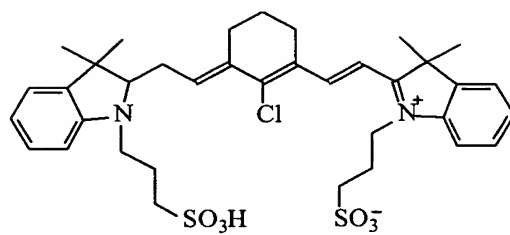


IR Dye 4

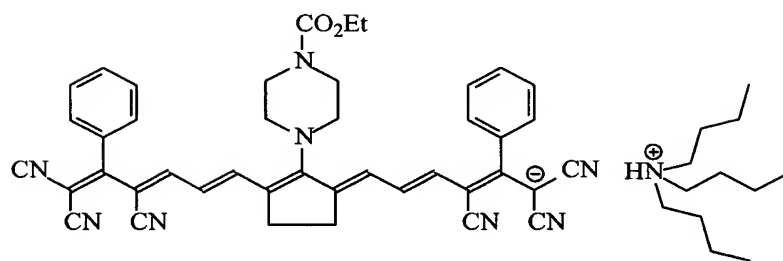


IR Dye 5

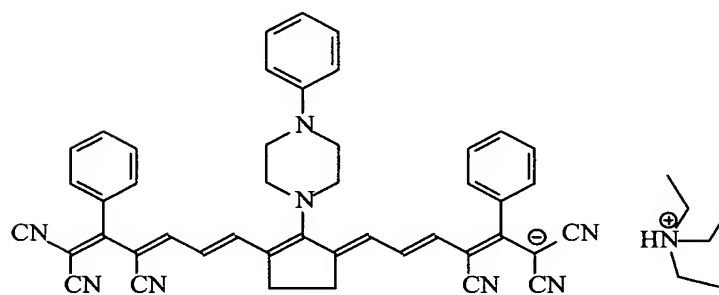
41



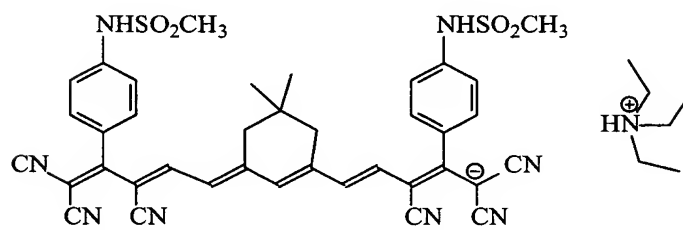
IR Dye 6



IR Dye 7

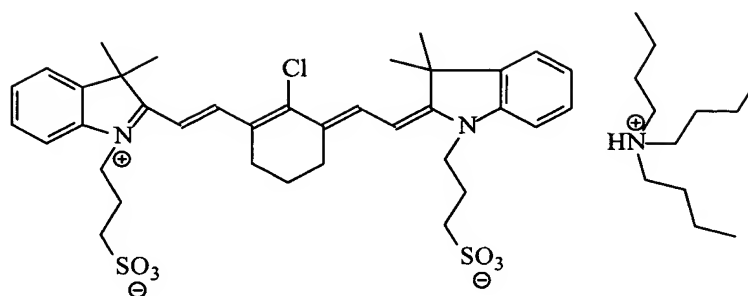


IR Dye 8

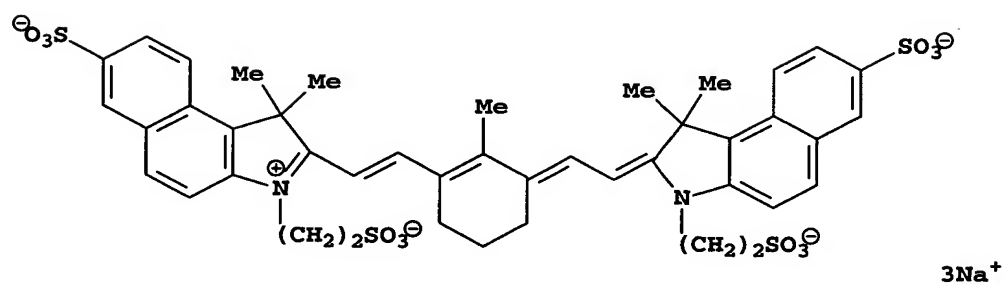


IR Dye 9

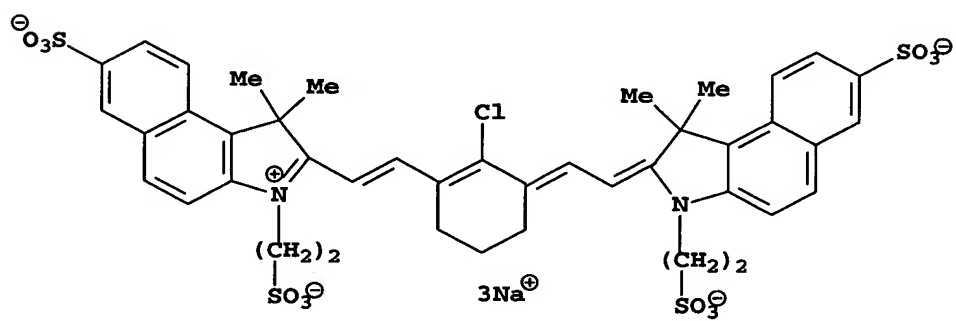
42



IR Dye 10

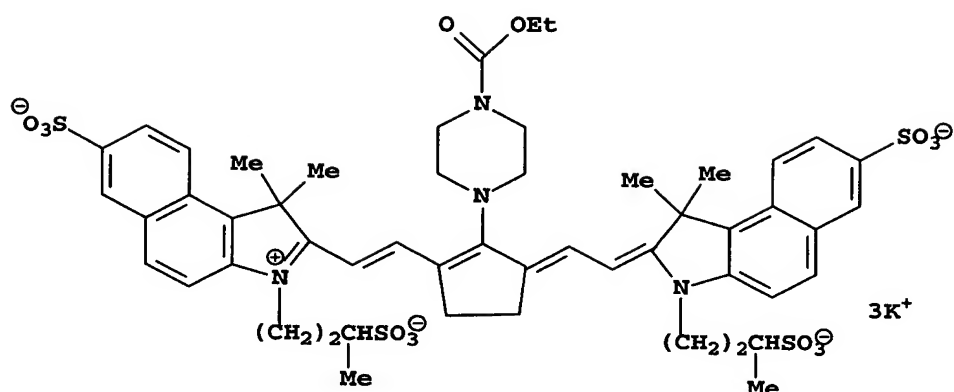


IR Dye 11

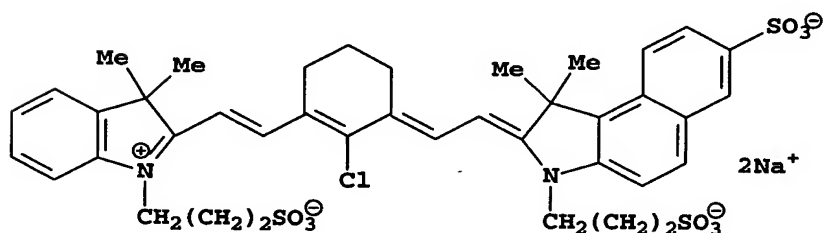


IR Dye 12





IR Dye 16

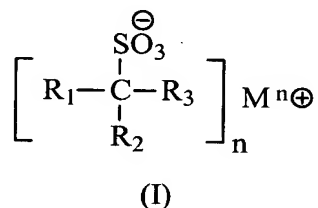


IR Dye 17

9. A thermally sensitive imaging member comprising a support having disposed thereon, the same or different layer,
  - a) a thermally sensitive compound comprising a heat-activatable bisulfite adduct, and
  - b) a photothermal conversion material.
10. The imaging member of claim 9 comprising a polyester or aluminum support.
11. The imaging member of claim 9 wherein said thermally sensitive compound is present in an amount of at least 0.1 g/m<sup>2</sup>, and said photothermal conversion material is present in an amount sufficient to provide a transmission optical density of at least 0.1 at 830 nm.

12. The imaging member of claim 9 wherein said support is an on-press printing cylinder.

13. The imaging member of claim 9 wherein said thermally sensitive compound is represented by the following Structure I:

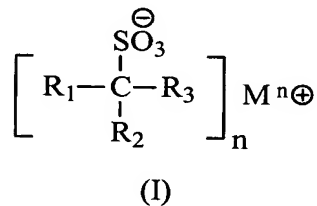


wherein  $\text{R}_1$  and  $\text{R}_2$  are independently aliphatic, aromatic, or polymeric groups, or  $\text{R}_1$  and  $\text{R}_2$  together comprise the atoms sufficient to provide a 3- to 7-membered carbocyclic or heterocyclic ring,  $\text{M}$  is a proton or a cation of valency  $n$ ,  $n$  is 1, 2, 3, or 4,  $p$  is 0 or 1, provided that when  $p$  is 0,  $\text{R}_3$  is oxo or thioxo and when  $p$  is 1,  $\text{R}_3$  is hydroxy or thio.

14. The composition of claim 13 wherein  $p$  is 0,  $\text{R}_2$  is  $-\text{NHR}_4$ ,  $\text{R}_3$  is oxo, and  $\text{R}_4$  is an aliphatic, aromatic, or polymeric group.

15. A lithographic printing plate comprising an aluminum or polyester support having disposed thereon an imaging layer comprising:

a) one or more of the following compounds as thermally sensitive compounds represented by Structure I:





b) a photothermal conversion material that is a carbon black or an IR dye,

said one or more thermally sensitive compounds being present in an amount of from about 0.1 to about 10 g/m<sup>2</sup> and said photothermal conversion material present in an amount of from about 0.002 to about 5 g/m<sup>2</sup>.

16. A method of imaging comprising:

- A) providing the thermally sensitive imaging member of claim 9, and
- B) imagewise exposing said imaging member with thermal energy to provide exposed and unexposed areas in the imaging layer of said imaging member, whereby said exposed areas are rendered more hydrophobic than said unexposed areas.

17. The method of claim 16 wherein said imagewise exposing is carried out using an IR radiation emitting laser or thermo resistive head, and said imaging member is a lithographic printing plate having an aluminum support or an on-press imaging cylinder having a cylindrical support.

18. A method of printing comprising:

- A) providing the imaging member of claim 9,
- B) imagewise exposing said imaging member with thermal energy to provide exposed and unexposed areas in the imaging layer of said imaging member, whereby said exposed areas are rendered more hydrophobic than said unexposed areas, and
- C) with or without wet processing, contacting said imagewise exposed imaging member with a lithographic printing ink, and imagewise transferring said printing ink from said imaging member to a receiving material.

19. A method of imaging comprising:

- A) spray coating the heat-sensitive composition of claim 1 onto a support to provide a thermally sensitive imaging member, and

B) imagewise exposing said imaging member with thermal energy to provide exposed and unexposed areas in the imaging layer of said imaging member, whereby said exposed areas are rendered more hydrophobic than said unexposed areas.

20. The method of claim 19 wherein said support is an on-press printing cylinder or sleeve.